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# CONTENTS OF VOL. XLIV.


No. 1.

CONTRIBUTIONS FROM THE CHEMICAL LABORATORY OF CORNELL UNIVERSITY:

*Some Disazo and Trisazo Derivatives of Resorcin.* By W. R. Orndorff and B. J. Ray . . . . . 1

A GENERAL REACTION FOR THE CONVERSION OF SATURATED FATTY ACIDS ($R.CH_2.CH_2.COOH$) INTO KETONES ($R.CO.CH_3$). By H. D. Dakin . . . . . 41

THE CATALYTIC RACEMIZATION OF OPTICALLY ACTIVE HYDANTOIN DERIVATIVES AND OF RELATED SUBSTANCES AS THE RESULT OF TAUTOMERIC CHANGE. By H. D. Dakin . . . . 48

THE FRIEDEL AND CRAFTS REACTION WITH CHLORIDES OF UNSATURATED ACIDS. By E. P. Kohler, G. L. Heritage and M. C. Burnley . . . . . 60

THE EQUILIBRIUM BETWEEN AMMONIUM BENZOATE AND BENZAMIDE AND WATER. By E. Emmet Reid . . . . . 76

FRICTION IN THE BOMB CALORIMETER. By H. A. Roesler . . 80

NOTE.

A Separatory Apparatus . . . . . 84

REPORT.

Chemical Constitution and the Absorption of Light . . . . 85

REVIEWS.

Colloids and the Ultramicroscope . . . . . 107

The Modern Asphalt Pavement . . . . . 108

Physical Chemistry for Electrical Engineers . . . . 109

A Text-Book of Physical Chemistry Theory and Practice . . 109

Physikalisch-chemische Rechenaufgaben . . . . . 110

Chemical Conversion Tables . . . . . 110

Elementary Chemistry . . . . . 111

An Elementary Treatise on Qualitative Chemical Analysis . . 112

No. 2.

CONTRIBUTIONS FROM THE SHEFFIELD LABORATORY OF YALE UNIVERSITY:

CLXXXI.—*Alkylation of Aromatic Amino Acids: Aminomethylbenzoic Acids.* By Henry L. Wheeler and Charles Hoffman . . . . . 113

CLXXXII.—*On the Action of Iodine on Metatoluidine.* By Henry L. Wheeler . . . . . 126

A Study of the Surface Tensions of Some Unsaturated Organic Compounds. By Frederick H. Getman . . . 145
The Conductivity and Dissociation of Organic Acids in Aqueous Solution at Different Temperatures. By George F. White and Harry C. Jones . . . . . 159

REVIEWS.

Quantitative Chemical Analysis . . . . . 199
A Manual of Qualitative Analysis . . . . . 200
An Introduction to Chemical Analysis . . . . . 200
Food Inspection and Analysis . . . . . 201
Chimica Generale e Applicata all'Industria. Vol. II. . . . 202
Beet-Sugar Making and Its Chemical Control . . . . 203
The Elements of Metallography . . . . . 204
Theorien der Chemie . . . . . 205
Recent Advances in Physical and Inorganic Chemistry . . 206
Über die Erhaltung der Masse bei chemischen Umsetzungen . . 207
Beitrage zur Kenntnis des elektrochemischen Verhaltens des Eisens 208

---

No. 3.

Contribution from the Chemical Laboratory of the University of Wyoming:
*The Replacement of Halogen by the Nitro Group.* By L. Charles Raiford and Fred. W. Heyl . . . 209
On the Rearrangement of the Tautomeric Salts of 1,4-Diphenyl-5-thionurazole and 1,4-Diphenyl-5-thiolurazole. By Sidney Nirdlinger and S. F. Acree . . . . . 219
The Diffusion of Crude Petroleum through Fuller's Earth. By J. Elliott Gilpin and Oscar E. Bransky . . . . 251

REVIEWS.

First-year Chemistry . . . . . 303
Erratum . . . . . 304

---

No. 4.

The Reaction between Organic Magnesium Compounds and Unsaturated Compounds Containing Alkoxyl Groups. By Grace Potter Reynolds . . . . . 305
A Comparison of Certain Acids Containing a Conjugated System of Double Linkages. By Annie Louise Macleod . . 331
Contributions from the Sheffield Laboratory of Yale University:
CLXXXIII.—*Studies in the Oxazole Series: Syntheses of μ-Ketotetrahydrooxazoles.* By Treat B. Johnson and Ralph W. Langley . . . . . 352

BENZOPHOSPHIDE. By P. N. Evans and Jennie Tilt . . . . 361
ON THE ACTION OF CHLORINE IN A SOLUTION OF CARBON TETRACHLORIDE AND OF CARBON TETRACHLORIDE ON METALLIC OXIDES. By Arthur Michael and Arthur Murphy, Jr. . . . . 365

OBITUARY.

Stanislao Cannizzaro . . . . . 384

REVIEWS.

Introduction to Physical Chemistry . . . . . 388
An Introduction to Physical Science . . . . . 388
Technical Calculations for Sugar Works . . . . . 389
Laboratory Exercises in General Chemistry . . . . . 390
E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics . . . . . 390

---

No. 5

CONTRIBUTIONS FROM THE CHEMICAL LABORATORY OF HARVARD COLLEGE:
*Furoylacetic Ester and the Furylpyrazolones.* By Henry A. Torrey and J. E. Zanetti . . . . . 391
ADDITIVE POWER OF 2-PENTENE. By Roger F. Brunel and Eugene G. Probeck . . . . . 431
CONTRIBUTIONS FROM THE CHEMICAL LABORATORY OF HARVARD COLLEGE:
*A Method for Purifying and Drying Organic Liquids by Wiping.* By C. Loring Jackson and A. H. Fiske . 438
CONTRIBUTIONS FROM THE SHEFFIELD LABORATORY OF YALE UNIVERSITY:
CLXXXIV.—*Alkylation of Aromatic Amino Acids: Nitramino and Iodamino Acids.* By Henry L. Wheeler and Carl O. Johns . . . . . 441
CLXXXV.—*Studies in the Oxazole Series: The Addition of Cyanic Acid to Epichlorhydrin.* By Treat B. Johnson and Herbert H. Guest . . . . . 453
THE PRECIPITATION OF VANADIC ACID AS SILVER VANADATE, AND THE ESTIMATION OF PHOSPHORIC AND VANADIC ACIDS IN THE PRESENCE OF ONE ANOTHER. By Graham Edgar . . . . 467

OBITUARIES.

Henry Augustus Torrey . . . . . 472
Hugo Erdmann . . . . . 474
Charles Anthony Goessmann . . . . . 475

REVIEWS.

Abhandlung über die Glykole oder zweiatomige Alkohole und über das Aethylenoxyd als Bindeglied zwischen organischer und Mineralchemie . . . . . 477

The Oxidases and Other Oxygen Catalysts Concerned in Biological Oxidations . . . . . 478
Allen's Commercial Organic Analysis, Vol. I . . . . . 479
Kleines Handwörterbuch der Agriculturchemie . . . . . 481
Producer Gas-Fired Furnaces . . . . . 481
Die elektromotorischen Kräfte der Polarisation, und ihre Messung mit Hilfe des Oszillographen . . . . . 482

---

No. 6.

On the Preparation of Certain Sulphonic Acids in the Free State. By J. H. Kastle . . . . . 483
Several Acids Suitable for Use as Standards in Acidimetry. By J. H. Kastle . . . . . 487
Contributions from the Sheffield Laboratory of Yale University:
CLXXXVI.—*On Iodine Derivatives of Toluene.* By Henry L. Wheeler . . . . . 493
Note on Aminomethylbenzoic Acids. By Henry L. Wheeler and Charles Hoffman . . . . . 507
The Conductivity, Dissociation and Temperature Coefficients of Conductivity at 35°, 50° and 65° of Aqueous Solutions of a Number of Salts. By A. P. West and Harry C Jones . 508

REPORT.

The Industrial Fixation of Nitrogen . . . . . 544

OBITUARIES.

George Frederick Barker . . . . . 556
Heinrich Caro . . . . . 557
Zdenko Hans Skraup . . . . . 559

REVIEWS.

The Simple Carbohydrates and the Glucosides . . . . 560
Die Sprengstoffe, ihre Chemie und Technologie . . . . 560
The Mechanical Appliances of the Chemical and Metallurgical Industries . . . . . 561
Theoretical Principles of the Methods of Analytical Chemistry Based upon Chemical Reactions . . . . . 562
Die Bestimmungsmethoden des Wismuts . . . . . 563
Post's chemisch-technische Analyse, II, 4 . . . . . 563
Toxicologische Chemie . . . . . 564
Ausführliches Lehrbuch der pharmazeutischen Chemie . . . 564
Index . . . . . 565
Errata . . . . . 596

# INDEX TO VOL. XLIV.

## AUTHORS.


ABEGG, R. and *Sackur, O.* Physikalisch-chemische Rechenaufgaben (Review) ..... 110

" See *Landolt, H.*

*Acree, S. F.* See *Nirdlinger, S.*

*Alexander, J.* See *Zsigmondy, R.*

*Armstrong, E. F.* The simple carbohydrates and the glucosides (Review) ..... 560

*Arrhenius, S.* and *Finkelstein, A.* Theorien der Chemie (Review) ..... 205

BATTLE, H. B. and *Gascoyne, W. J.* Chemical conversion tables (Review) ..... 110

*Biedermann, R.* Die Sprengstoffe (Review) ..... 560

*Blanchard, W. M.* Laboratory exercises in general chemistry (Review) ..... 390

*Bourbakis, C. J.* See *Mittelstaedt, O.*

*Bransky, O. E.* See *Gilpin, J. E.*

*Brautlecht, C. A.* See *Wheeler, H. L.*

*Brunel, R. F.* and *Probeck, E. G.* Additive power of 2-pentene 431

*Burnley, M. C.* See *Kohler, E. P.*

CARNAHAM, D. H. See *Chesneau, M. G.*

*Chesneau, M. G. Lincoln, A. T.* and *Carnaham, D. H.* Theoretical principles of the methods of analytical chemistry (Review) ..... 562

*Clowes, F.* and *Coleman, J. B.* Quantitative chemical analysis (Review) ..... 199

*Coleman, J. B.* See *Clowes, F.*

DAKIN, H. D. General reaction for the conversion of saturated fatty acids ($RCH_2CH_2COOH$) into ketones ($RCOCH_3$) ..... 41

" The catalytic racemization of optically active hydantoin derivatives and of related substances as the result of tautomeric change ..... 48

*Davis, W. A.* See *Leffmann, H.*

*Dinsmore, S. C.* See *Jacobson, C. A.*

EDGAR, G. Precipitation of vanadic acid as silver vanadate, and the estimation of phosphoric and vanadic acids in the presence of one another ..... 487

*Evans, P. N.* and *Tilt, J.* Benzophosphide ..... 361
*Ewell, A. W.* A text-book of physical chemistry theory and practice (Review) ..... 109

FISKE, A. H. See *Jackson, C. L.*
*Foerster, F.* Beitrage zur Kenntniss des elektrochemischen Verhaltens des Eisens (Review) ..... 208

GASCOYNE, W. J. See *Battle, H. B.*
*Getman, F. H.* An introduction to physical science (Review) ... 388
" A study of the surface tensions of some unsaturated organic compounds ..... 145
*Gilpin, J. E.* and *Bransky, O. E.* The diffusion of crude petroleum through fuller's earth .... 251
*Godfrey, H.* Elementary chemistry (Review) ..... 111
*Guest, H. H.* See *Johnson, T. B.*

HERITAGE, G. L. See *Kohler, E. P.*
*Heyl, F. W.* See *Raiford, L. C.*
*Hoffman, C.* See *Wheeler, H. L.*

JACKSON, C. L. and *Fiske, A. H.* A method for purifying and drying organic liquids by wiping ..... 438
*Jacobson, C. A.* and *Dinsmore, S. C.* A separatory apparatus (Note) ..... 84
*Johns, C. O.* See *Wheeler, H. L.*
*Johnson, T. B.* and *Guest, H. H.* Studies in the oxazole series: the addition of cyanic acid to epichlorhydrin ..... 453
" and *Langley, R. W.* Studies in the oxazole series: syntheses of $\mu$-ketotetrahydrooxazoles ..... 352
*Jones, H. C.* Introduction to physical chemistry (Review) ..... 388
" See *West, A. P.* and *White, G. F.*

KASTLE, J. H. On the preparation of certain sulphonic acids in the free state ..... 483
" Several acids suitable for use as standards in acidimetry ..... 487
" The oxidases and other oxygen catalysts concerned in biological oxidations (Review) ..... 478
*Kohler, E. P., Heritage, G. L.* and *Burnley, M. C.* The Friedel and Crafts reaction with chlorides of unsaturated acids ..... 60

LANDOLT, H. and *Abegg, R.* Über die Erhaltung der Masse bei chemischen Umsetzungen (Review) ..... 207
*Langley, R. W.* See *Johnson, T. B.*
*Leach, A. E.* Food inspection and analysis (Review) ..... 201
*LeBlanc, M.* Die elektromotorischen Kräfte der Polarisation (Review) ..... 482
*Leffmann, H.* and *Davis, W. A.* Allen's commerical organic analysis. Vol. I. (Review) ..... 479
*Lincoln, A. T.* See *Chesneau, M. G.*

McGREGORY, J. E. A manual of qualitative analysis (Review) 200
*Macleod, A. L.* A comparison of certain acids containing a conjugated system of double linkages ..... 331
*Mannheim, E.* Toxicologische Chemie (Review) ..... 564
*Margosches, B. M.* See *Moser, L.*
*Mathewson, C. H.* See *Ruer, R.*
*Merck Chemical Works, E.* E. Merck's annual report of recent advances in pharmaceutical chemistry and therapeutics, 1908 (Review) .. 390
*Michael, A.* and *Murphy, A., Jr.* On the action of chlorine in a solution of carbon tetrachloride and of carbon tetrachloride on metallic oxides ..... 365
*Mittelstaedt, O.* and *Bourbakis, C. J.* Technical calculations for sugar works (Review) ..... 389
*Molinari, E.* Chimica generale e applicata all'industria. Vol. II. (Review) ..... 202
*Morgan, J. L. R.* Physical chemistry for electrical engineers (Review) ..... 109
*Moser, L.* and *Margosches, B. M.* Die Bestimmungsmethoden des Wismuts (Review) ..... 563
*Murphy, A., Jr.* See *Michael, A.*

NAGEL, O. Producer gas-fired furnaces (Review) ..... 481
" The mechanical appliances of the chemical and metallurgical industries (Review) ..... 561
*Neumann, B.* Post's chemisch-technische analyse, II, 4 (Review) 563
*Nikaido, Y.* Beet-sugar making and its chemical control (Review) ..... 203
*Nirdlinger, S.* and *Acree, S. F.* On the rearrangement of the tautomeric salts of 1,4-diphenyl-5-thionurazole and 1,4-diphenyl-5-thiolurazole ..... 219

ORNDORFF, W. R. and *Ray, B. J.* Some disazo and trisazo derivatives of resorcin ..... 1

PASSON, M. Kleines Handwörterbuch der Agriculturchemie (Review) ..... 481
*Probeck, E. G.* See *Brunel, R. F.*
RAIFORD, L. C. and *Heyl, F. W.* The replacement of halogen by the nitro group ..... 209
*Ramsay, W.* See *Stewart, A. W.*
*Ray, B. J.* See *Orndorff, W. R.*
*Reid, E. E.* The equilibrium between ammonium benzoate and benzamide and water ..... 76
*Renouf, E.* The industrial fixation of nitrogen (Report) ..... 544
*Reynolds, G. P.* The reaction between organic magnesium compounds and unsaturated compounds containing alkoxyl groups ..... 305
*Richardson, C.* The modern asphalt pavement (Review) ..... 108
*Rockwood, E. W.* An introduction to chemical analysis (Review) ..... 200
*Roesler, H. A.* Friction in the bomb calorimeter ..... 80
*Ruer, R.* and *Mathewson, C. H.* The elements of metallography (Review) ..... 204
SACKUR, O. See *Abegg, R.*
*Schmidt, E.* Ausführliches Lehrbuch der pharmazeutischen Chemie (Review) ..... 564
*Scholes, S. R.* See *Wheeler, H. L.*
*Segerblom, W.* First year chemistry (Review) ..... 303
*Sellers, J. F.* An elementary treatise on qualitative chemical analysis (Review) ..... 112
*Stewart, A. W.* and *Ramsay, W.* Recent advances in physical and inorganic chemistry (Review) ..... 206
*Strong, W. W.* Chemical constitution and absorption of light (Report) ..... 85
TILT, J. See *Evans, P. N.*
*Torrey, H. A.* and *Zanetti, J. E.* Furoylacetic ester and the furylpyrazolones ..... 391
WEST, A. P. and *Jones, H. C.* The conductivity, dissociation and temperature coefficients of conductivity at 35°, 50° and 65° of aqueous solutions of a number of salts ..... 508
*Wheeler, H. L., Brautlecht, C. A.* and *Hoffman, C.* On iodine derivatives of toluene ..... 493
" " " " and *Scholes, S. R.* On the action of iodine on *m*-toluidine ..... 126

*Wheeler, H. L.*, and *Hoffman, C.* Alkylation of aromatic amino acids: aminomethylbenzoic acids ..... 113
" " " Note on aminomethylbenzoic acids ..... 507
" and *Johns, C. O.* Alkylation of aromatic amino acids: nitramino and iodamino acids ..... 441
*White, G. F.* and *Jones, H. C.* The conductivity and dissociation of organic acids in aqueous solutions at different temperatures.. 159
*Wurtz, A.* Abhandlung über die Glykole oder zweiatomige Alkohole und über das Aethylenoxyd als Bindeglied zwischen organischer und Mineralchemie (Review)... 477

ZANETTI, J. E. See *Torrey, H. A.*
*Zsigmondy, R.* and *Alexander, J.* Colloids and the ultramicroscope (Review)..... 107

---

SUBJECTS.

ACETIC acid, conductivity and dissociation of, 164; sodium salt, 160. *White* and *Jones*..... 164
1-Acetyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti* ..... 413
2-Acetyl-1-phenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti* ..... 417
Acidimetry, several acids suitable for use as standards in. *Kastle*. 487
Alkylation of aromatic amino acids:
Aminomethylbenzoic acids. *Wheeler* and *Hoffman*.....113, 507
Nitramino and iodamino acids. *Wheeler* and *Johns*..... 441
Allyl acetylcarbamate. *Johnson* and *Guest*..... 463
Aluminium nitrate and sulphate, conductivity at 35°, 50° and 65°. *West* and *Jones* ..... 534
*o*- and *p*-Aminobenzoic acids, conductivity and dissociation of, 195; sodium salt of *o*-acid, 162. *White* and *Jones*..... 195
2- and 4-Amino-3,5-dimethylbenzoic acids. *Wheeler* and *Hoffman*. 119
Aminomethylbenzoic acids, alkylation of. *Wheeler* and *Hoffman*. 113
2-Amino-3-methylbenzoic acid. *Wheeler* and *Hoffman*.....123, 507
Ammonium benzoate and benzamide and water, equilibrium between. *Reid*..... 76
Ammonium bisulphate and bromide, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 514
Antimonous oxide, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 377
4-Azobenzene-3-furyl-5-pyrazolone. *Torrey* and *Zanetti*..... 415
4-Azobenzene-1-phenyl-3-furyl-3-pyrazolone. *Torrey* and *Zanetti*. 420

4-β-Azonaphthalene-1-phenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti* ... 421

BARIUM acetate, formate, nitrate, conductivity at 35°, 50° and 65°. *West* and *Jones* ... 525
Benzalacetone, surface tension of. *Getman* ... 154
Benzal-*p*-bromacetophenone. *Kohler, Heritage* and *Burnley* ... 66
Benzalmethylethyl ketone, surface tension of. *Getman* ... 155
Benzal-*p*-phenoxyacetophenone. *Kohler, Heritage* and *Burnley* ... 68
Benzalpinacolin, surface tension of. *Getman* ... 155
Benzamide and water and ammonium benzoate, equilibrium between. *Reid* ... 76
Benzoic acid, conductivity and dissociation of, 183; sodium salt, 162. *White* and *Jones* ... 183
Benzophosphide. *Evans* and *Tilt* ... 361
4-Benzylidene-3-furyl-5-pyrazolone. *Torrey* and *Zanetti* ... 414
Bisazobenzene-*p*-diazoaminoazobenzene. *Orndorff* and *Ray* ... 39
α - Brom - β,β - diphenylethyl - 4 - [4(?) - bromphenoxy]phenyl ketone. *Kohler, Heritage* and *Burnley* ... 69
α-Brom-β,β-diphenyl-*p*-phenoxypropiophenone. *Kohler, Heritage* and *Burnley* ... 69
2-Brom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley* ... 72
6-Brom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley* ... 67
1-*p*-Bromphenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti* ... 427
1-Butene, additive power of. *Brunel* and *Probeck* ... 437
Butyric acid, conductivity and dissociation of, 166; sodium salt, 160. *White* and *Jones* ... 166
Butyric acid, oxidation by hydrogen peroxide. *Dakin* ... 46

CADMIUM bromide, chloride, iodide, conductivity at 35°, 50° and 65°. *West* and *Jones* ... 528
Calcium bromide, formate, nitrate, conductivity at 35°, 50° and 65°. *West* and *Jones* ... 521
Capric acid, oxidation by hydrogen peroxide. *Dakin* ... 46
Caproic acid, oxidation by hydrogen peroxide. *Dakin* ... 46
Caprylic acid, oxidation by hydrogen peroxide. *Dakin* ... 46
Carbon tetrachloride, action on metallic oxides. *Michael* and *Murphy* ... 365
β,β'-Chlorbromisopropyl benzoylcarbamate. *Johnson* and *Guest* ... 465
β,β'-Chlorbromisopropyl phenylcarbamate. *Johnson* and *Langley* ... 358
γ-Chlor-β-brompropyl acetylcarbamate. *Johnson* and *Guest* ... 464
γ-Chlor-β-brompropyl benzoylcarbamate. *Johnson* and *Guest* ... 466
β-Chlor-γ-brompropyl benzoylcarbamate. *Johnson* and *Guest* ... 466

γ-Chlor-β-brompropyl carbamate. *Johnson* and *Guest*..... 464
γ-Chlor-β-brompropyl phenylcarbamate. *Johnson* and *Langley*.. 359
β-Chlor-γ-brompropyl phenylcarbamate. *Johnson* and *Langley*.. 358
Chlorine in carbon tetrachloride, action on metallic oxides. *Michael* and *Murphy*..... 365
β-Chlormethyl-μ-ketotetrahydrooxazole, 460; benzoylurea, 462; silver salt, 462. *Johnson* and *Guest*..... 460
α-Chlormethyl-*N*-phenyl-μ-ketotetrahydrooxazole. *Johnson* and *Langley*..... 359
β-Chlormethyl-*N*-phenyl-μ-ketotetrahydrooxazole. *Johnson* and *Langley*..... 357
Chromium acetate and nitrate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 535
Chromium trioxide, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 379
Cinnamic acid, conductivity and dissociation of, 188; sodium salt, 161. *White* and *Jones*..... 188
Cinnamyl chloride and the Friedel and Crafts reaction. *Kohler, Heritage* and *Burnley*..... 64
Citraconic acid, conductivity and dissociation of. *White* and *Jones*..... 175
Citric acid, conductivity and dissociation of. *White* and *Jones*.. 181
Cobalt acetate, bromide, chloride, nitrate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 531
Conductivity and dissociation of organic acids in aqueous solutions at different temperatures. *White* and *Jones*..... 159
Conductivity, dissociation and temperature coefficients of conductivity at 35°, 50° and 65° of aqueous solutions of a number of salts. *West* and *Jones*..... 508
Conjugated system of double linkages, comparison of certain acids containing. *Macleod*..... 331
Crotonic acid, conductivity and dissociation of, 178; sodium salt, 162. *White* and *Jones*..... 178
Cuprous oxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 377
α-Cyancinnamylidenacetic acid, 347; ethyl ester, 347. *Macleod*.. 347

1,2-DIACETYL-3-FURYL-5-PYRAZOLONE. *Torrey* and *Zanetti*..... 413
Dibromacetylaminoresorcinyl diacetate. *Raiford* and *Heyl*..... 218
Dibromaminoresorcinol, 217; hydrochloride, 217; picrate, 218. *Raiford* and *Heyl*..... 217
β,β′-Dibromisopropyl benzoylcarbamate. *Johnson* and *Guest*... 465
β,β-Dibromisopropyl phenylcarbamate. *Johnson* and *Langley*... 360
2,6-Dibrom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley*..... 74

Dibromnitroresorcinol, 215; ammonium salt, 216. *Raiford* and *Heyl*..... 215
β,γ-Dibrompropyl benzoylcarbamate. *Johnson* and *Guest*..... 466
β,γ-Dibrompropyl phenylcarbamate. *Johnson* and *Langley*..... 360
β,β'-Dichlorisopropyl acetylcarbamate. *Johnson* and *Guest*..... 459
β,β'-Dichlorisopropyl benzoylcarbamate. *Johnson* and *Guest*..... 460
β,β'-Dichlorisopropyl phenylcarbamate. *Johnson* and *Langley*... 357
β,γ-Dichlorpropyl acetylcarbamate. *Johnson* and *Guest*..... 463
β,γ-Dichlorpropyl benzoylcarbamate. *Johnson* and *Guest*..... 465
β,γ-Dichlorpropyl phenylcarbamate. *Johnson* and *Langley*..... 360
2-Diethylamino-3,5-dimethylbenzoic acid. *Wheeler* and *Hoffman*. 121
2-Diethylamino-3-methylbenzoic acid. *Wheeler* and *Hoffman*...124, 507
Diethyl diethylmethylmalonate. *Reynolds*..... 321
Diethyl ethoxymethylenemalonate and Grignard reagents. *Reynolds*..... 320
Diethyl hydroxymethylenemalonate and phenylmagnesium bromide. *Reynolds*..... 314
Diethyl phenylethylmethylmalonate. *Reynolds*..... 315
2,5-Diiod-*m*-acettoluide. *Wheeler* and *Brautlecht*..... 498
2,6-Diiod-*m*-acettoluide. *Wheeler* and *Brautlecht*..... 134
4,5-Diiod-*m*-acettoluide. *Wheeler* and *Scholes*..... 143
4,6-Diiod-*m*-acettoluide. *Wheeler* and *Hoffman*..... 132
5,6-Diiod-*m*-acettoluide. *Wheeler* and *Hoffman*..... 504
4,5-Diiod-2-aminobenzoic acid, 450; ethyl ester, 452. *Wheeler* and *Johns*..... 450
4,6-Diiod-2-aminophenol hydrochloride. *Raiford* and *Heyl*..... 214
3,4-Diiodbenzoic acid. *Wheeler* and *Johns*..... 451
4,6-Diiod-2-nitrophenol from 2,4,6-triiodphenol and sodium nitrite. *Raiford* and *Heyl*..... 213
2,6-Diiod-4-nitrophenol from 2,4,6-triiodphenol and sodium nitrite. *Raiford* and *Heyl*..... 215
2,5-Diiod-3-nitrotoluene. *Wheeler* and *Brautlecht*..... 497
4,5-Diiod-3-nitrotoluene. *Wheeler* and *Scholes*..... 142
2,5-Diiod-4-nitrotoluene. *Wheeler* and *Brautlecht*..... 500
2,3-Diiod-5-nitrotoluene. *Wheeler* and *Hoffman*..... 503
2,5-Diiod-6-nitrotoluene. *Wheeler* and *Brautlecht*..... 137
3,6-Diiod-*o*-toluidine. *Wheeler* and *Brautlecht*..... 137
4,5-Diiod-*o*-toluidine. *Wheeler* and *Brautlecht*..... 500
2,5-Diiod-*m*-toluidine. *Wheeler* and *Brautlecht*..... 497
2,6-Diiod-*m*-toluidine. *Wheeler* and *Brautlecht*..... 135
4,5-Diiod-*m*-toluidine. *Wheeler* and *Scholes*..... 142
4,6-Diiod-*m*-toluidine. *Wheeler* and *Hoffman*..... 132
5,6-Diiod-*m*-toluidine. *Wheeler* and *Hoffman*..... 503
2,5-Diiod-*p*-toluidine. *Wheeler* and *Brautlecht*..... 501
β-Dimethylacrylic acid, surface tension of. *Getman*..... 154

3,5-Dimethylbenzoic acid. *Wheeler* and *Hoffman*..... 117
Diphenylmethylethylbutadiene. *Reynolds*..... 328
β,β - Diphenyl - *p* - phenoxypropiophenone. *Kohler, Heritage* and *Burnley*..... 68
3,5-Diphenylpyrazole. *Reynolds*..... 324
Diphenyltetramethylenebismethylenepropionic acid, 344; dimethyl ester, 345; dimethyl ester tetrabromide, 345. *Macleod*..... 344

EPICHLORHYDRIN, addition of cyanic acid to. *Johnson* and *Guest*..... 453
Errata.....304, 596
β-Ethoxybenzalacetophenone, preparation, 323; reaction with Grignard reagents, 325. *Reynolds*..... 323
Ethoxydiphenylethylallyl alcohol. *Reynolds*..... 326
Ethoxyethyldiphenylcarbinol. *Reynolds*..... 322
Ethoxyphenylethylpropiophenone, 326; semicarbazidesemicarbazone, 326 *Reynolds*..... 326
β-Ethoxypropiophenone and Grignard reagents. *Reynolds*.... 321
Ethoxytriphenylallyl alcohol. *Reynolds*..... 330
Ethyl 4-amino-3,5-dimethylbenzoate. *Wheeler* and *Hoffman*.... 120
2-Ethylamino-3,5-dimethylbenzoic acid. *Wheeler* and *Hoffman*.. 122
2-Ethylamino-3-methylbenzoic acid. *Wheeler* and *Hoffman*.....123, 507
Ethyl α-cyan-β,δ-diphenylallylacetate. *Macleod*..... 349
Ethyl α-cyan-β-ethyl-δ-phenylallylacetate. *Macleod*..... 347
Ethylethoxyethylphenylcarbinol. *Reynolds*..... 322
β-Ethyl-δ-phenylallylacetamide. *Macleod*..... 349
β-Ethyl-δ-phenylallylmalonamic acid. *Macleod*..... 348
Ethylphenylisobutyrophenone, 318; oxime, 319. *Reynolds*..... 318
Ethylphenylpropionic acid. *Reynolds*..... 316

FATTY acids, general reaction for their conversion into ketones. *Dakin*..... 41
Ferrous oxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 373
Formylethylphenyl ketone and Grignard reagents. *Reynolds*... 312, 316
Friction in the bomb calorimeter. *Roesler*..... 80
Friedel and Crafts reaction with chlorides of unsaturated acids. *Kohler, Heritage* and *Burnley*..... 60
Fumaric acid, conductivity and dissociation of. *White* and *Jones*. 174
Furoylacetic ester, 391, 405; copper salt, 408; oxime, 408; potassium salt, 407; semicarbazone, 410; sodium salt, 407. *Torrey* and *Zanetti*..... 391
Furoylmalonic ester anilide. *Torrey* and *Zanetti*..... 411
3-Furylisoxazolone. *Torrey* and *Zanetti*..... 409

3-Furylpyrazolone, 412; picrate, 413. *Torrey* and *Zanetti*.. 412
Furylpyrazolonephenylurea. *Torrey* and *Zanetti*..... 414
Furylpyrazolones. *Torrey* and *Zanetti*..... 391

GALLIC acid, conductivity and dissociation of, 192; sodium salt, 162. *White* and *Jones*..... 192

HALOGEN, replacement by the nitro group. *Raiford* and *Heyl*. 209
Hippuric acid, conductivity and dissociation of, 170; sodium salt, 161. *White* and *Jones*..... 170
Hydantoin derivatives and related substances, catalytic racemization of optically active, as a result of tautomeric change. *Dakin*..... 48
*l*- and *i*-Hydantoinacetic acids. *Dakin*..... 57
*l*- and *i*-Hydantoinpropionic acids. *Dakin*..... 58
Hydrochloric acid, conductivity of. *White* and *Jones*..... 160
*m*- and *p*-Hydroxybenzoic acids, conductivity and dissociation of. *White* and *Jones*..... 190
*l*- and *i*-*p*-Hydroxybenzylhydantoins. *Dakin*..... 55
5 - Hydroxy - 1 - phenyl - 3 - furylpyrazole benzoate. *Torrey* and *Zanetti*..... 418

6-IOD-*m*-ACETAMINOBENZOIC acid. *Wheeler* and *Hoffman*.. 130
4-Iod-*m*-accettoluide. *Wheeler* and *Scholes*..... 140
Iodamino aromatic acids, alkylation of. *Wheeler* and *Johns*... 441
4-Iod-2-aminobenzoic acid. *Wheeler* and *Johns*..... 449
2-Iod-4-aminobenzoic acid. *Wheeler* and *Johns*..... 446
5-Iod-2-amino-3-methylbenzoic acid, 124, 507; ethyl ester, 125, 507. *Wheeler* and *Hoffman*..... 124, 507
5-Iod-2-diethylamino-3-methylbenzoic acid. *Wheeler* and *Hoffman*..... 125, 507
4-Iod-2-ethylaminobenzoic acid. *Wheeler* and *Johns*..... 449
4-Iod-2-methylaminobenzoic acid. *Wheeler* and *Johns*..... 450
4-Iod-2-nitrobenzoic acid. *Wheeler* and *Johns*..... 448
2-Iod-4-nitrobenzoic acid. *Wheeler* and *Johns*..... 445
5-Iod-3-nitrotoluene. *Wheeler* and *Scholes*..... 144
5-Iod-3-nitro-*o*-toluidine. *Wheeler* and *Brautlecht*..... 497
5-Iod-4-nitro-*o*-toluidine. *Wheeler* and *Brautlecht*..... 500
3-Iod-5-nitro-*o*-toluidine. *Wheeler* and *Hoffman*..... 502
5-Iod-6-nitro-*o*-toluidine. *Wheeler* and *Brautlecht*..... 136
5-Iod-3-nitro-*p*-toluidine. *Wheeler* and *Scholes*..... 141
4-Iod-*m*-toluidine, 138; hydrochloride, 139; *β*-phenylthiourea derivative, 140. *Wheeler* and *Scholes*..... 138
5-Iod-*m*-toluidine. *Wheeler* and *Scholes*..... 144
6-Iod-*m*-toluidine. *Wheeler* and *Hoffman*..... 129

*l*- and *i*-Isobutylhydantoins. *Dakin*..... 54
Isobutyric acid, conductivity and dissociation of. *White* and *Jones*..... 167
Isobutyric acid, oxidation by hydrogen peroxide. *Dakin*..... 46
Isonitrosofuroylacetic ester. *Torrey* and *Zanetti*..... 410
4-Isonitroso-1-phenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti*. 419
Isovaleric acid, oxidation by hydrogen peroxide. *Dakin*..... 46
Itaconic acid, conductivity and dissociation of. *White* and *Jones*. 177

KETONES, general reaction for the conversion of fatty acids into. *Dakin*..... 41
μ-Ketotetrahydrooxazoles, synthesis of. *Johnson* and *Langley* 352

LAURIC acid, oxidation by hydrogen peroxide. *Dakin*..... 47
Lead monoxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 378
Lithium bromide, nitrate, sulphate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 519

MAGNESIUM acetate, bromide, formate, conductivity at 35°, 50° and 60°. *West* and *Jones*..... 526
Magnesium organic compounds, reaction with unsaturated compounds containing alkoxyl groups. *Reynolds*..... 305
Maleic acid, conductivity and dissociation of. *White* and *Jones*.. 173
Malonic acid, conductivity and dissociation of. *White* and *Jones*. 171
Mandelic acid, conductivity and dissociation of, 169; sodium salt, 162. *White* and *Jones*..... 169
Manganese chloride, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 530
Manganous oxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 374
Mercuric oxide, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 378
Mesaconic acid, conductivity and dissociation of. *White* and *Jones*..... 176
Mesitylenic acid. *Wheeler* and *Hoffman*..... 117
Mesityl oxide, surface tension of. *Getman*..... 154
Metanilic acid, conductivity and dissociation of. *White* and *Jones*. 193
Methylcinnamylidenacetic acid, 338; methyl ester, 341; methyl ester di- and tetrabromides, 346. *Macleod*..... 338
α-Methylethylhydantoin. *Dakin*..... 59
2-Methyl-1-phenyl-3-furyl-5-pyrazolone, 422; hydrobromide, 424; hydriodide, 422; hydrochloride, 423, 425; picrate, 424. *Torrey* and *Zanetti*..... 422
Methylpropyl ketone *p*-nitrophenylhydrazone. *Dakin*..... 46

Molybdenum oxides, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 379
Myristic acid, oxidation by hydrogen peroxide. *Dakin*..... 47

NICKEL chloride, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 533
Nickel monoxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 375
Nitramino aromatic acids, alkylation of. *Wheeler* and *Johns*..... 441
2-Nitro-4-acetaminobenzoic acid. *Wheeler* and *Johns*..... 446
4-Nitro-2-aminobenzoic acid, 443; ethyl ester, 444. *Wheeler* and *Johns*..... 443
2-Nitro-4-aminobenzoic acid, 447; ethyl ester, 448. *Wheeler* and *Johns*..... 447
2- and 4-Nitro-3,5-dimethylbenzoic acids. *Wheeler* and *Hoffman*. 118
2-Nitro-3-methylbenzoic acid, 122, 507; amide, 123, 507. *Wheeler* and *Hoffman*..... 122, 507
1-*m*-Nitrophenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti*..... 429
4-Nitroso-2-methyl-1-phenyl-3-furyl-5-pyrazolone, 425; hydrochloride, 427. *Torrey* and *Zanetti*..... 425
*p*-Nitro-*o*-toluenesulphonic acid, preparation in free state, 484; use as a standard in acidimetry, 488. *Kastle*..... 483, 487
6-Nitro-*o*-toluidine. *Wheeler* and *Brautlecht*..... 136
Nonylic acid, oxidation by hydrogen peroxide. *Dakin*..... 46

OBITUARIES:
Barker, G. F..... 556
Cannizzaro, Stanislao..... 384
Caro, H..... 557
Erdmann, H..... 474
Goessmann, C. A..... 475
Skraup, Z. H..... 559
Torrey, H. A..... 472
Organic acids, conductivity and dissociation in aqueous solution at different temperatures. *White* and *Jones*..... 159
Oxazole series:
Addition of cyanic acid to epichlorhydrin. *Johnson* and *Guest*..... 453
Syntheses of μ-ketotetrahydrooxazoles. *Johnson* and *Langley*. 352
Oxides, action of chlorine in carbon tetrachloride and of carbon tetrachloride on metallic. *Michael* and *Murphy*..... 365

PALMITIC acid, oxidation by hydrogen peroxide. *Dakin*..... 47
Pentaiodotoluene. *Wheeler* and *Hoffman*..... 507
2-Pentene, additive power of. *Brunel* and *Probeck*..... 431

Petroleum, diffusion through fuller's earth. *Gilpin* and *Bransky*. 251
Phenylacetic acetic, conductivity and dissociation of, 168; sodium salt, 161. *White* and *Jones*. 168
Phenylacetic acid, oxidation by hydrogen peroxide. *Dakin*. 47
1-Phenyl-4-benzylidene-3-furyl-5-pyrazolone. *Torrey* and *Zanetti*. 419
γ-Phenylbutyric acid, oxidation by hydrogen peroxide. *Dakin*. 48
Phenyldibrompropionyl chloride and the Friedel and Crafts reaction. *Kohler, Heritage* and *Burnley*. 69
Phenylethylmethylmalonic acid. *Reynolds*. 315
1-Phenyl-5-furyl-3-pyrazolone. *Torrey* and *Zanetti*. 429
1-Phenyl-3-furyl-5-pyrazolone, 416; hydrochloride, 416. *Torrey* and *Zanetti*. 416
Phosphoric acid, estimation in the presence of vanadic acid. *Edgar* 487
*o*-Phthalic acid, conductivity and dissociation of. *White* and *Jones*. 187
Potassium bisulphate, carbonate, dichromate, ferrocyanide, iodide, conductivity at 35°, 50° and 65°. *West* and *Jones*. 517
Potassium ethyl diphenylmethylmalonate. *Reynolds*. 320
Potassium (mono) *p*-sulpho-*o*-nitrobenzoate, use as standard in acidimetery. *Kastle*. 489
Propionic acid, conductivity and dissociation of, 165; sodium salt, 160. *White* and *Jones*. 165
Propionic acid, oxidation by hydrogen peroxide. *Dakin*. 45
Propylidenethylphenyl ketone dibromide. *Reynolds*. 317
Pyromucic acid, conductivity and dissociation of, 182; sodium salt, 162. *White* and *Jones*. 182
Pyrotartaric acid, conductivity and dissociation of. *White* and *Jones*. 180

RACEMIC acid, conductivity and dissociation of. *White* and *Jones*. 179
Racemization, catalytic, of optically active hydantoin derivatives and related substances as a result of tautomeric change. *Dakin*. 48

REPORTS:
Chemical constitution and the absorption of light. *Strong*. 85
Nitrogen, industrial fixation of. *Renouf*. 544
Resorcin, some disazo and trisazo derivatives of. *Orndorff* and *Ray*. 1
*sym.*-Resorcindisazobenzene, diacetate of. *Orndorff* and *Ray*. 17
*unsym.*-Resorcindisazobenzene, 20; diacetate, 20. *Orndorff* and *Ray*. 20
*unsym.*-Resorcindisazo-α-naphthalene, 38; diacetate, 39. *Orndorff* and *Ray*. 38

*sym.*-Resorcindisazo-*o*-toluene, 33; diacetate, 34. *Orndorff* and *Ray* ..... 33
*unsym.*-Resorcindisazo-*o*-toluene, 34; diacetate, 35. *Orndorff* and *Ray* ..... 34
*sym.*-Resorcindisazo-*p*-toluene, 27; diacetate, 29. *Orndorff* and *Ray* ..... 27
*unsym.*-Resorcindisazo-*p*-toluene, 30; diacetate, 31. *Orndorff* and *Ray* ..... 30
Resorcintrisazobenzene, 10, 18, 21; diacetate, 12, 19, 22. *Orndorff* and *Ray* ..... 10
Resorcin-2,4,6-trisazo-*α*-naphthalene, 36; diacetate, 37. *Orndorff* and *Ray* ..... 36
Resorcin-2,4,6-trisazo-*o*-toluene, 31; diacetate, 32. *Orndorff* and *Ray* ..... 31
Resorcin-2,4,6-trisazo-*p*-toluene, 26; diacetate, 27. *Orndorff* and *Ray* ..... 26

REVIEWS:

Agriculturchemie, kleines Handwörterbuch der. *Passon* ..... 481
Analysis, an introduction to chemical. *Rockwood* ..... 200
Analytical chemistry, the theoretical principles of the methods of. *Chesneau, Lincoln* and *Carnahan* ..... 562
Asphalt pavement, the modern. *Richardson* ..... 108
Beet-sugar making and its chemical control. *Nikaido* ..... 203
Carbohydrates and the glucosides, the simple. *Armstrong* ... 560
Chemical conversion tables. *Battle* and *Gascoyne* ..... 110
Chimica generale e applicata all'industria. Vol. II. *Molinari* 202
Colloids and the ultramicroscope. *Zsigmondy* and *Alexander* 107
Commercial organic analysis, Allen's. Vol. I. *Leffmann* and *Davis* ..... 479
Eisens, Beitrage zur Kenntniss des elektrochemischen Verhaltens des. *Foerster* ..... 208
Elementary chemistry. *Godfrey* ..... 111
First year chemistry. *Segerblom* ..... 303
Food inspection and analysis. *Leach* ..... 201
General chemistry, laboratory exercises in. *Blanchard* ..... 390
Glykole, Abhandlung über die. *Wurtz* ..... 477
Masse bei chemischen Umsetzungen, über die Erhaltung der. *Landolt* and *Abegg* ..... 207
Mechanical appliances of the chemical and metallurgical industries, the. *Nagel* ..... 361
Metallography, the elements of. *Ruer* and *Mathewson* ..... 204
Oxidases, the. *Kastle* ..... 478
Pharmaceutical chemistry and therapeutics, E. Merck's annual report of recent advances in. 1908. *E. Merck Chemical Works* ..... 390

Pharmazeutischen Chemie, ausführliches Lehrbuch der. *Schmidt*..... 564
Physical and inorganic Chemistry, recent advances in. *Stewart* and *Ramsay*..... 206
Physical chemistry, introduction to. *Jones*..... 388
Physical chemistry for electrical engineers. *Morgan*..... 109
Physical chemistry theory and practice, a text-book of. *Ewell*..... 109
Physical science, an introduction to. *Getman*..... 388
Physikalisch-chemische Rechenaufgaben. *Abegg* and *Sackur*. 110
Polarisation, die elektromotorischen Kräfte der. *Le Blanc*.. 482
Post's chemisch-technische Analyse. II, 4. *Neumann*..... 563
Producer gas-fired furnaces. *Nagel*..... 481
Qualitative analysis, a manual of. *McGregory*..... 200
Qualitative chemical analysis, an elementary treatise on. *Sellers*..... 112
Quantitative chemical analysis. *Clowes* and *Coleman*..... 199
Sprengstoffe, die. *Biedermann*..... 560
Sugar works, technical calculations for. *Mittelstaedt* and *Bourbakis*..... 389
Theorien der Chemie. *Arrhenius* and *Finkelstein*..... 205
Toxicologische Chemie. *Mannheim*..... 564
Wismuts, die Bestimmungsmethoden des. *Moser* and *Margosches*..... 563

SALICYLIC acid, conductivity and dissociation of, 189; sodium salt, 161. *White* and *Jones*..... 189
Separatory apparatus (Note). *Jacobson* and *Dinsmore*..... 84
Silver monoxide, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 378
Sodium acetate, *o*-aminobenzoate, benzoate, butyrate, cinnamate, chloride, crotonate, gallate, hippurate, mandelate, propionate, pyromucate, salicylate, sulphanilate, *o*-, *m*-, *p*- and α-toluates, conductivity of. *White* and *Jones*..... 159
Sodium acetate, carbonate, iodide, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 515
Stannous oxide, action of chlorine in carbon tetrachloride on. *Michael* and *Murphy*..... 376
Stearic acid, oxidation by hydrogen peroxide. *Dakin*..... 47
Strontium acetate, bromide, nitrate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 523
Succinic acid, conductivity and dissociation of. *White* and *Jones*. 172
Sulphanilic acid, conductivity and dissociation of, 194; sodium salt, 161. *White* and *Jones*..... 194
*o*-Sulpho-*p*-aminobenzoic acid, use as standard in acidimetry. *Kastle*..... 490

Sulphonic acids, preparation in the free state. *Kastle*..... 483
1-*p*-Sulphonylphenyl-3-furyl-5-pyrazolone. *Torrey* and *Zanetti*... 428
Surface tensions of some unsaturated organic compounds. *Getman*..... 145

TAUTOMERIC salts of 5-thiol- and 5-thion-1,4-diphenylurazoles, rearrangement of. *Nirdlinger* and *Acree*..... 219
2,3,4,6-Tetraiodotoluene. *Wheeler* and *Hoffman*..... 133
2,3,5,6-Tetraiodotoluene. *Wheeler* and *Brautlecht*..... 499
2,4,5,6-Tetraiod-*m*-toluidine. *Wheeler* and *Hoffman*..... 505
3-Thio-1-carbethoxy-2,4-diphenylsemicarbazide. *Nirdlinger* and *Acree*..... 236
5-Thiol- and 5-thion-1,4-diphenylurazoles, rearrangement of the tautomeric salts of. *Nirdlinger* and *Acree*..... 219
Toluene, iodine derivatives of. *Wheeler, Brautlecht* and *Hoffman*. 493
*p*(?)-Toluenesulphonic acid, preparation in free state. *Kastle*.... 485
*o*-, *m*- and *p*-Toluic acids, conductivity and dissociation of, 184; sodium salts, 161. *White* and *Jones*..... 184
*m*-Toluidine, action of iodine on. *Wheeler, Brautlecht, Hoffman* and *Scholes*..... 126
2,4,6-Tribromresorcinol, reaction with sodium nitrite. *Raiford* and *Heyl*..... 215
2,4,6-Triiod-*m*-acettoluide. *Wheeler* and *Hoffman*..... 133
4,5,6-Triiod-*m*-acettoluide. *Wheeler* and *Hoffman*..... 505
2,4,5-Triiodbenzoic acid. *Wheeler* and *Johns*..... 451
2,4,6-Triiodphenol, reaction with sodium nitrite, 212; acetate, 212. *Raiford* and *Heyl*..... 212
2,3,4-Triiodtoluene. *Wheeler* and *Hoffman*..... 506
2,3,5-Triiodtoluene. *Wheeler* and *Hoffman*..... 504
2,3,6-Triiodtoluene. *Wheeler* and *Brautlecht*..... 135
2,4,5-Triiodtoluene. *Wheeler* and *Brautlecht*..... 499
2,4,6-Triiodtoluene. *Wheeler* and *Brautlecht*..... 501
3,4,6-Triiodtoluene. *Wheeler* and *Scholes*..... 140
2,4,6-Triiod-*m*-toluidine. *Wheeler* and *Hoffman*..... 132
2,5,6-Triiod-*m*-toluidine. *Wheeler* and *Brautlecht*..... 498
4,5,6-Triiod-*m*-toluidine. *Wheeler* and *Hoffman*..... 504
Trimethylethylene, additive power of. *Brunel* and *Probeck*..... 438
Tungsten oxides, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 382

UNSATURATED organic compounds containing alkoxyl groups, reaction with organic magnesium compounds. *Reynolds*... 305
*d*- and *i*-α-Uramidoisobutylacetic acids. *Dakin*..... 53
Uranium oxides, action of chlorine in carbon tetrachloride and of carbon tetrachloride on. *Michael* and *Murphy*..... 384

Uranyl acetate, chloride, nitrate, sulphate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 536

VALERIC acid, oxidation by hydrogen peroxide. *Dakin*..... 46
Vanadic acid, precipitation as silver vanadate and estimation in the presence of phosphoric acid. *Edgar*..... 487

WIPING, method for purifying and drying organic liquids by. *Jackson* and *Fiske*..... 438

ZINC sulphate, conductivity at 35°, 50° and 65°. *West* and *Jones*..... 530

---

FORMULAS.

## $C_1$-GROUP.

### 1 II.

$CH_2O_2$. Formic acid. Ca (p. 522). Ba (p. 525). Mg (p. 527). *West* and *Jones*..... 522

## $C_2$-GROUP.

### 2 II.

$C_2H_4O_2$. Methanecarboxylic acid (acetic acid). Na (p. 516). Mg (p. 527). Sr (p. 524). Ba (p. 526). Cr (p. 536). Co (p. 533). $UrO_2$ (p. 538). *West* and *Jones*..... 516
Na (p. 160). *White* and *Jones*..... 164

## $C_3$-GROUP.

### 3 II.

$C_3H_4O_4$. Methanedicarboxylic acid (malonic acid). *White* and *Jones*..... 171
$C_3H_6O_2$. Ethanecarboxylic acid (propionic acid). *Dakin*..... 45
Na (p. 160). *White* and *Jones*..... 165

## $C_4$-GROUP.

### 4 I.

$C_4H_8$. α-Butene. *Brunel* and *Probeck*..... 437

### 4 II.

$C_4H_4O_4$. (1) *cis*-Ethene-α,β-dicarboxylic acid (maleic acid). *White* and *Jones*..... 173
(2) *trans*-Ethene-α,β-dicarboxylic acid (fumaric acid). *White* and *Jones*..... 174
$C_4H_6O_2$. α-Propene-α-carboxylic acid (crotonic acid). Na (p. 162). *White* and *Jones*..... 178
$C_4H_6O_4$. Ethane-α,β-dicarboxylic acid (succinic acid). *White* and Jones..... 172

$C_4H_6O_6$. *d,l*-$\alpha,\beta$-Dihydroxyethane-$\alpha,\beta$-dicarboxylic acid (racemic acid). *White* and *Jones*..... 179
$C_4H_8O_2$. (1) Propane-$\alpha$-carboxylic acid (butyric acid). *Dakin*. 46
Na (p. 160). *White* and *Jones*..... 166
(2) Propane-$\beta$-carboxylic acid (isobutyric acid). *Dakin*.... 46
*White* and *Jones*..... 167

**4 IV.**

$C_4H_6O_2NCl$. 2-Keto-5-chlormethyltetrahydrooxazole. Ag (p. 462). *Johnson* and *Guest*..... 460
$C_4H_{11}ON_2S$. 3-Keto-5-thio-1,4-diphenyl-2,3,4,5-tetrahydro-1,2,4-triazole (5-thion-1,4-diphenylurazole). *Nirdlinger* and *Acree*. 219

**4 V.**

$C_4H_7O_2NClBr$. $\gamma$-Chlor-$\beta$-brompropyl ester of aminoformic acid. *Johnson* and *Guest*..... 464

## $C_5$-GROUP.

**5 I.**

$C_5H_{10}$. (1) $\beta$-Pentene. *Brunel* and *Probeck*..... 431
(2) $\gamma$-Methyl-$\beta$-butene (trimethylethylene). *Brunel* and *Probeck*..... 438

**5 II.**

$C_5H_4O_2$. Furane-2-carboxylic acid (pyromucic acid). Na (p. 162). *White* and *Jones*..... 182
$C_5H_6O_4$. (1) *cis*-$\alpha$-Propene-$\alpha,\beta$-dicarboxylic acid (citraconic acid). *White* and *Jones*..... 175
(2) *trans*-$\alpha$-Propene-$\alpha,\beta$-dicarboxylic acid (mesaconic acid). *White* and *Jones*..... 176
(3) $\alpha$-Propene-$\beta,\gamma$-dicarboxylic acid (itaconic acid). *White* and *Jones*..... 177
$C_5H_8O_2$. $\beta$-Methyl-$\alpha$-propene-$\alpha$-carboxylic acid ($\beta$-dimethylacrylic acid). *Getman*..... 154
$C_5H_8O_4$. $\alpha$-Methylethane-$\alpha,\beta$-dicarboxylic acid (pyrotartaric acid) *White* and *Jones*..... 180
$C_5H_{10}O_2$. (1) Butane-$\alpha$-carboxylic acid (valeric acid). *Dakin*.. 46
(2) $\beta$-Methylpropane-$\alpha$-carboxylic acid (isovaleric acid). *Dakin*..... 46

**5 III.**

$C_5H_6O_4N_2$. (1) *l*-2,4-Diketotetrahydro-1,3-diazole-5-methanecarboxylic acid (*l*-hydantoinacetic acid). *Dakin*..... 57
(2) *i*-2,4-Diketotetrahydro-1,3-diazole-5-methanecarboxylic acid. *Dakin*..... 58

## $C_6$-GROUP.

**6 II.**

$C_6H_8O_7$. $\beta$-Hydroxypropane-$\alpha,\beta,\gamma$-tricarboxylic acid (citric acid). *White* and *Jones*..... 181

$C_6H_{10}O$. $\delta$-Keto-$\beta$-methyl-$\beta$-pentene (mesityl oxide). *Getman*.. 154
$C_6H_{12}O_2$. Pentane-$\alpha$-carboxylic acid (caproic acid). *Dakin*..... 46

**6 III.**

$C_6H_3OI_3$. 2,4,6-Triiod-1-hydroxybenzene. *Raiford* and *Heyl*... 211
$C_6H_3O_2Br_3$. 2,4,6-Tribrom-1,3-dihydroxybenzene. *Raiford* and *Heyl*..... 215
$C_6H_6O_4N_2$. (1) *l* - 2,4 - Diketotetrahydro - 1,3 - diazole - 5 - [ethane-$\beta$-carboxylic acid] (*l*-hydantoinpropionic acid). *Dakin*. 58
(2) *i* - 2,4 - Diketotetrahydro - 1,3 - diazole - 5 - [ethane - $\beta$ - carboxylic acid]. *Dakin*..... 59
$C_9H_9O_2N$. $\beta$-Propenyl ester of acetaminoformic acid. *Johnson* and *Guest*..... 463
$C_6H_{10}O_2N_2$. 2,4 - Diketo - 5 - methyl - 5 - ethyltetrahydro - 1,3 - diazole (methylethylhydantoin). *Dakin*..... 59

**6 IV.**

$C_6H_3O_2NI_2$. (1) 4,6 - Diiod - 2 - nitro - 1 - hydroxybenzene. *Raiford* and *Heyl*..... 213
(2) 2,6-Diiod-4-nitro-1-hydroxybenzene. *Raiford* and *Heyl*. 215
$C_6H_3O_4NBr_2$. 2,6(?) - Dibrom - 4(?) - nitro - 1,3 - dihydroxybenzene. $NH_4$ (p. 216). (*Raiford* and *Heyl*)..... 216
$C_6H_5ONI_2$. 4,6-Diiod-2-amino-1-hydroxybenzene. + HCl. *Raiford* and *Heyl*..... 214
$C_6H_5O_2NBr_2$. 2,4(?) - Dibrom - 4(?) - amino - 1,3 - dihydroxybenzene. HCl (p. 217). Picrate (p. 218). *Raiford* and *Heyl*.. 217
$C_6H_7O_3NS$. (1) 3-Aminobenzene-1-sulphonic acid (metanilic acid) *White* and *Jones*..... 193
(2) 4-Aminobenzene-1-sulphonic acid (sulphanilic acid). Na (p. 161). *White* and *Jones*..... 194
$C_9H_9O_2NCl_2$. (1) $\beta,\gamma$-Dichlorpropyl ester of acetaminoformic acid. *Johnson* and *Guest*..... 463
(2) $\beta$-Chlor-$\alpha$-chlormethylethyl ester of acetaminoformic acid. *Johnson* and *Guest*..... 459

**6 V.**

$C_9H_9O_2NClBr$. $\gamma$-Chlor-$\beta$-brompropyl ester of acetaminoformic acid. *Johnson* and *Guest*..... 464

## $C_7$-GROUP.

**7 II.**

$C_7H_3I_5$. 2,3,4,5,6-Pentaiod-1-methylbenzene. *Wheeler* and *Hoffman*..... 507
$C_7H_4I_4$. (1) 2,3,4,5-Tetraiod-1-methylbenzene. *Wheeler* and *Hoffman*..... 506
(2) 2,3,4,6-Tetraiod-1-methylbenzene. *Wheeler* and *Hoffman*. 133
(3) 2,3,5,6-Tetraiod-1-methylbenzene. *Wheeler* and *Brautlecht*..... 499

$C_7H_5I_3$. (1) 2,3,4-Triiod-1-methylbenzene. *Wheeler* and *Hoffman*.... 506
(2) 2,3,5-Triiod-1-methylbenzene. *Wheeler* and *Hoffman*... 504
(3) 2,3,6-Triiod-1-methylbenzene. *Wheeler* and *Brautlecht*. 135
(4) 2,4,5-Triiod-1-methylbenzene. *Wheeler* and *Brautlecht*.. 499
(5) 2,4,6-Triiod-1-methylbenzene. *Wheeler* and *Brautlecht*.. 501
(6) 3,4,6-Triiod-1-methylbenzene. *Wheeler* and *Scholes*. 140
$C_7H_8O_2$. Benzenecarboxylic acid (benzoic acid). $NH_4$. *Reid*.... 79
Na (p. 162). *White* and *Jones*..... 183
$C_7H_6O_3$. (1) 2-Hydroxybenzene-1-carboxylic acid (salicylic acid). Na (p. 161). *White* and *Jones*..... 189
(2) 3-Hydroxybenzene-1-carboxylic acid. *White* and *Jones*. 190
(3) 4-Hydroxybenzene-1-carboxylic acid. *White* and *Jones*. 191
$C_7H_6O_5$. 3,4,5-Trihydroxybenzene-1-carboxylic acid (gallic acid). Na (p. 162). *White* and *Jones*..... 192
$C_7H_9N$. 3 - Amino - 1 - methylbenzene (*m* - toluidine). *Wheeler*, *Brautlecht*, *Hoffman* and *Scholes*..... 126

## 7 III.

$C_7H_3O_2I_3$. 2,4,5-Triiodbenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 451
$C_7H_4O_2I_2$. 3,4-Diiodbenzene-1-carboxylic acid. *Wheeler* and *Johns* 451
$C_7H_5O_2N$. 5 - Keto - 3 - [2-furyl] - 4,5 - dihydroisoxazole (3-furyl-isoxazolone). *Torrey* and *Zanetti*..... 409
$C_7H_5NI_4$. 2,4,5,6-Tetraiod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*..... 505
$C_7H_6O_2N_2$. 5 - Keto - 3 - [2 - furyl] - 4,5 - dihydro - 1,2 - diazole (3-furylpyrazolone). Picrate (p. 413). *Torrey* and *Zanetti*. 412
$C_7H_6O_4N_2$. (1) 4 - Nitro - 2 - aminobenzene - 1 - carboxylic acid. *Wheeler* and *Johns*..... 443
(2) 2 - Nitro - 4 - aminobenzene - 1 - carboxylic acid. *Wheeler* and *Johns*..... 447
$C_7H_6NI_3$. (1) 2,4,6-Triiod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*..... 132
(2) 2,5,6-Triiod-3-amino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 498
(3) 4,5,6-Triiod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*..... 504
$C_7H_7ON$. Amide of benzenecarboxylic acid (benzamide). *Reid*. 78
$C_7H_7OP$. Phosphide of benzenecarboxylic acid (benzophosphide). *Evans* and *Tilt*..... 361
$C_7H_7O_2N$. (1) 2-Aminobenzene-1-carboxylic acid. Na (p. 162). *White* and *Jones*..... 195
(2) 4-Aminobenzene-1-carboxylic acid. *White* and *Jones*.. 196
$C_7H_7NI_2$. (1) 3,6 - Diiod - 2 - amino - 1 - methylbenzene. *Wheeler* and *Brautlecht*..... 137

(2) 4,5-Diiod-2-amino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 500
(3) 2,5-Diiod-3-amino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 497
(4) 2,6-Diiod - 3 - amino - 1 - methylbenzene. *Wheeler* and *Brautlecht*..... 135
(5) 4,5-Diiod-3-amino-1-methylbenzene. *Wheeler* and *Scholes* 142
(6) 4,6-Diiod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*..... 132
(7) 5,6-Diiod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*..... 503
(8) 2,5-Diiod-4-amino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 501
$C_7H_8O_2N_2$. 6-Nitro-2-amino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 136
$C_7H_8O_3S$. 4(?)-Methylbenzene-1-sulphonic acid. + $H_2O$. *Kastle*. 485
$C_7H_8NI$. (1) 4-Iod-3-amino - 1 - methylbenzene. + HCl (p. 139). *Wheeler* and *Scholes*..... 138
(2) 5-Iod-3-amino-1-methylbenzene. *Wheeler* and *Scholes*.. 144
(3) 6-Iod-3-amino-1-methylbenzene. *Wheeler* and *Hoffman*. 129
$C_7H_{12}O_2N_2$. (1) *l*-2,4 - Diketo - 5 - [$\beta$ - methylpropyl ]tetrahydro-1,3 - diazole (*l* - isobutylhydantoin). *Dakin*..... 54
(2) *i* - 2,4 - Diketo - 5 - [$\beta$ - methylpropyl]tetrahydro - 1,3 - diazole, *Dakin*..... 55
$C_7H_{14}O_3N_2$. (1) *d* - Urea - [$\gamma$ - methylbutane - $\alpha$ - carboxylic acid] (*d*-$\alpha$-uramidoisobutylacetic acid). *Dakin*..... 53
(2) *i*-Urea-[$\gamma$-methylbutane-$\alpha$-carboxylic acid]. *Dakin*..... 54

## 7 IV.

$C_7H_4O_4NI$. (1) 4-Iod-2-nitrobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 448
(2) 2 - Iod - 4 - nitrobenzene - 1 - carboxylic acid. *Wheeler* and *Johns*..... 445
$C_7H_6O_2NI_2$. (1) 2,5-Diiod-3-nitro-1-methylbenzene. *Wheeler* and *Brautlecht*..... 497
(2) 4,5-Diiod-3-nitro-1-methylbenzene. *Wheeler* and *Scholes*. 142
(3) 2,5-Diiod-4-nitro-1-methylbenzene. *Wheeler* and *Brautlecht*..... 500
(4) 2,3-Diiod-5-nitro-1-methylbenzene. *Wheeler* and *Hoffman*..... 503
(5) 2,5 - Diiod - 6 - nitro - 1 - methylbenzene. *Wheeler* and *Brautlecht*..... 137
(6) 4,5-Diiod-2-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 450
$C_7H_5O_7NS$. 2-Nitrobenzene-1-carboxylic-4-sulphonic acid. KH. *Kastle*..... 489

$C_7H_6O_3NI$. (1) 5-Iod-3-nitro-1-methylbenzene. *Wheeler* and *Scholes* ..... 144
(2) 4-Iod-2-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns* ..... 449
(3) 2-Iod-4-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns* ..... 446
$C_7H_7O_2N_2I$. (1) 5-Iod-3-nitro-2-amino-1-methylbenzene. *Wheeler* and *Brautlecht* ..... 497
(2) 5-Iod-4-nitro-2-amino-1-methylbenzene. *Wheeler* and *Brautlecht* ..... 500
(3) 3-Iod-5-nitro-2-amino-1-methylbenzene. *Wheeler* and *Hoffman* ..... 502
(4) 5-Iod-6-nitro-2-amino-1-methylbenzene. *Wheeler* and *Brautlecht* ..... 136
(5) 5-Iod-3-nitro-4-amino-1-methylbenzene. *Wheeler* and *Scholes* ..... 141
$C_7H_7O_5NS$. (1) 4-Nitro-1-methylbenzene-2-sulphonic acid. $+2H_2O$. *Kastle* ..... 484, 487
(2) 4-Aminobenzene-1-carboxylic-2-sulphonic acid. *Kastle* ..... 490

## $C_8$-GROUP.

### S II.

$C_8H_6O_4$. Benzene-1,2-dicarboxylic acid (*o*-phthalic acid). *White* and *Jones* ..... 187
$C_8H_8O_3$. α-Hydroxyphenylmethanecarboxylic acid (mandelic acid). Na (p. 162). *White* and *Jones* ..... 169
$C_8H_8N_2$. (1) 2-Methylbenzene-1-carboxylic acid. Na (p. 161). *White* and *Jones* ..... 184
(2) 3-Methylbenzene-1-carboxylic acid. Na (p. 161). *White* and *Jones* ..... 185
(3) 4-Methylbenzene-1-carboxylic acid. Na (p. 161). *White* and *Jones* ..... 186
(4) Phenylmethanecarboxylic acid (phenylacetic acid). *Dakin* ..... 47
Na (p. 161). *White* and *Jones* ..... 168
$C_8H_{12}O_5$. Diethyl ester of β-hydroxyethene-α,α-dicarboxylic acid (diethyl hydroxymethylenemalonate). *Reynolds* ..... 314
$C_8H_{16}O_2$. Heptane-α-carboxylic acid (caprylic acid). *Dakin* ..... 46

### S III.

$C_8H_3O_2I_3$. 2,4,6-Triiodphenyl ester of methanecarboxylic acid. *Raiford* and *Heyl* ..... 212
$C_8H_7O_4N$. 2-Nitro-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman* ..... 122, 507
$C_8H_8O_3N_2$. Amide of 2-nitro-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman* ..... 123, 507

$C_8H_9O_2N$. 2-Amino-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 123, 507

**8 IV.**

$C_8H_8O_2NI$. (1) 4-Iod-2-methylaminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 450

(2) 5-Iod-2-amino-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 124, 507

**$C_9$-GROUP.**

**9 II.**

$C_9H_8O_2$. $\beta$-Phenylethene-$\alpha$-carboxylic acid (cinnamic acid). Na (p. 161). *White* and *Jones*..... 188

$C_9H_{10}O_2$. 3,5-Dimethylbenzene-1-carboxylic acid (mesitylenic acid). *Wheeler* and *Hoffman*..... 117

$C_9H_{10}O_4$. Ethyl ester of furane-2-[$\alpha$-ketoethane-$\beta$-carboxylic acid] (furoylacetic ester). Na, K (p. 407). Cu (p. 408). *Torrey* and *Zanetti*..... 405

$C_9H_{18}O_2$. Octane-$\alpha$-carboxylic acid (nonylic acid). *Dakin*..... 46

**9 III.**

$C_9H_7OCl$. Chloride of $\beta$-phenylethene-$\alpha$-carboxylic acid (cinnamyl chloride). *Kohler, Heritage* and *Burnley*..... 64

$C_9H_8O_4N_2$. 5-Keto-1-[$\alpha$-ketoethyl]-3-[2-furyl]-4,5-dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 413

$C_9H_8O_5N_2$. 2-Nitro-4-acetaminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 446

$C_9H_9O_3N$. Benzaminomethanecarboxylic acid (hippuric acid). Na (p. 161). *White* and *Jones*..... 170

$C_9H_9O_4N$. (1) 2-Nitro-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 118

(2) 4-Nitro-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 118

$C_9H_9O_5N$. Ethyl ester of furane-2-[$\beta$-oximido-$\alpha$-ketoethane-$\beta$-carboxylic acid] (isonitrosofuroylacetic ester). *Torrey* and *Zanetti*..... 410

$C_9H_{10}O_4N_2$. (1) Ethyl ester of 4-nitro-2-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 444

(2) Ethyl ester of 2-nitro-4-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 448

$C_9H_{11}OBr$. 2-Brom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley*..... 72

$C_9H_{11}O_2N$. (1) 2-Amino-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 119

(2) 4-Amino-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 119

$C_9H_{11}O_4N$. Ethyl ester of furane-2-[$\alpha$-oximidoethane-$\beta$-carboxylic acid] (oxime of furoylacetic ester). *Torrey* and *Zanetti*.... 408

**9 IV.**

$C_9H_7OClBr_2$. Chloride of $\alpha,\beta$-dibrom-$\beta$-phenylethane-$\alpha$-carboxylic acid. *Kohler, Heritage* and *Burnley*..... 69

$C_9H_8ONI_2$. (1) 2,4,6 - Triiod - 3 - acetamino - 1 - methylbenzene. *Wheeler* and *Hoffman*..... 133

(2) 4,5,6-Triiod-3-acetamino-1-methylbenzene. *Wheeler* and *Hoffman*..... 505

$C_9H_8O_2ClBr$. Acid from $\alpha,\beta$-dibrom-$\beta$-phenylpropionic acid and $AlCl_3$. *Kohler, Heritage* and *Burnley*..... 71

$C_9H_8O_2NI$. 6-Iod-3-acetaminobenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 130

$C_9H_9ONI_2$. (1) 2,5-Diiod-3-acetamino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 498

(2) 2,6-Diiod-3-acetamino-1-methylbenzene. *Wheeler* and *Brautlecht*..... 134

(3) 4,5-Diiod-3-acetamino-1-methylbenzene. *Wheeler* and *Scholes*..... 143

(4) 4,6-Diiod-3-acetamino-1-methylbenzene. *Wheeler* and *Hoffman*..... 132

(5) 5,6-Diiod-3-acetamino-1-methylbenzene. *Wheeler* and *Hoffman*..... 504

$C_9H_9O_2NI_2$. Ethyl ester of 4,5-diiod-2-aminobenzene-1-carboxylic acid. *Wheeler* and *Johns*..... 452

$C_9H_{10}ONI$. 4 - Iod - 3 - acetamino - 1 - methylbenzene. *Wheeler* and *Scholes*..... 140

$C_9H_{10}O_2NI$. 4 - Iod - 2 - ethylaminobenzene - 1 - carboxylic acid. *Wheeler* and *Johns*..... 449

## $C_{10}$-GROUP.

**10 II.**

$C_{10}H_{10}O$. $\gamma$-Keto-$\alpha$-phenyl-$\alpha$-butene (benzalacetone). *Getman*.. 154

$C_{10}H_{10}O_2$. $\alpha$-Hydroxy-$\delta$-keto-$\delta$-phenyl-$\alpha$-butene (formylethylphenyl ketone). *Reynolds*..... 312, 316

$C_{10}H_{12}O_2$. $\gamma$-Phenylpropane-$\alpha$-carboxylic acid. *Dakin*..... 48

$C_{10}H_{16}O_5$. Diethyl ester of $\beta$-ethoxyethene-$\alpha,\alpha$-dicarboxylic acid (diethyl ethoxymethylenemalonate). *Reynolds*..... 320

$C_{10}H_{20}O_2$. Nonane-$\alpha$-carboxylic acid (capric acid). *Dakin*..... 46

**10 III.**

$C_{10}H_{10}O_4N_2$. (1) *l* - 2,4 - Diketo - 5 - [4 - hydroxyphenylmethyl] - tetrahydro - 1,3 - diazole (*l* - *p* - hydroxybenzyylhydantoin). *Dakin*..... 55

(2) *i* - 2,4 - Diketo - 5 - [4 - hydroxyphenylmethyl]tetrahydro - 1,3-diazole. *Dakin*..... 56

$C_{10}H_{13}O_2N$. 2 - Ethylamino-3-methylbenzene - 1 - carboxylic acid. *Wheeler* and *Hoffman*..... 123, 507

$C_{10}H_{12}O_4N_2$. Ethyl ester of furane-2-[α-semicarbazinoethane-β-carboxylic acid] (semicarbazone of furoylacetic ester). *Torrey* and *Zanetti*..... 410

## 10 IV.

$C_{10}H_{10}O_3NCl$. (1) 2 - Keto - 4 - chlormethyl - 3 - phenyltetrahydrooxazole. *Johnson* and *Langley*..... 359

(2) 2-Keto-5-chlormethyl-3-phenyltetrahydroxazole. *Johnson* and *Langley*..... 357

$C_{10}H_{11}O_2NCl_2$. (1) β,γ-Dichlorpropyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 360

(2) β-Chlor-α-chlormethylethyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 357

$C_{10}H_{11}O_2NBr_2$. (1) β,γ-Dibrompropyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 360

(2) β-Brom-α-brommethylethyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 360

$C_{10}H_{12}O_2NI$. Ethyl ester of 5-iod-2-amino-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 125, 507

## 10 V.

$C_{10}H_{11}O_2NClBr$. (1) γ-Chlor-β-brompropyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 359

(2) β-Chlor-γ-brompropyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 358

(3) β-Brom-α-chlormethylethyl ester of phenylaminoformic acid. *Johnson* and *Langley*..... 358

## $C_{11}$-GROUP.

## 11 II.

$C_{11}H_{12}O$. γ-Keto-α-phenyl-α-pentene (benzalmethylethyl ketone). *Getman*..... 155

$C_{11}H_{14}O_2$. (1) α-Keto-γ-ethoxy-α-phenylpropane (β-ethoxypropiophenone). *Reynolds*..... 321

(2) β-Phenylbutane-α-carboxylic acid (ethylphenylpropionic acid). *Reynolds*..... 316

## 11 III.

$C_{11}H_{10}O_4N_2$. 3 - Keto - 1,2 - di - [α - ketoethyl] - 5 - [2 - furyl] - 2,3-dihydro - 1,2 - diazole (1,2 - diacetyl - 1 - furyl - 5 - pyrazolone) *Torrey* and *Zanetti*..... 413

$C_{11}H_{13}O_2N$. (1) Ethyl ester of 4-amino-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 120

(2) 2-Ethylamino-3,5-dimethylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 122

$C_{11}H_{14}O_4N_2$. β-[4-Nitrophenylhydrazone]pentane. *Dakin*..... 46

### 11 IV.

$C_{11}H_{11}O_2NCl_2$. (1) $\beta,\gamma$-Dichlorpropyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 465
(2) $\beta$-Chlor-$\alpha$-chlormethylethyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 460
$C_{11}H_{11}O_2NBr_2$. (1) $\beta,\gamma$-Dibrompropyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 466
(2) $\beta$-Brom-$\alpha$-brommethylethyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 465

### 11 V.

$C_{11}H_{11}O_2NClBr$. (1) $\gamma$-Chlor-$\beta$-brompropyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 466
(2) $\beta$-Chlor-$\gamma$-brompropyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 466
(3) $\beta$-Brom-$\alpha$-chlormethylethyl ester of benzaminoformic acid. *Johnson* and *Guest*..... 465

## $C_{12}$-GROUP.

### 12 II.

$C_{12}H_{12}O_2$. $\alpha$-Phenyl-$\alpha,\gamma$-pentadiene-$\delta$-carboxylic acid ($\alpha$-methylcinnamylidenacetic acid). *Macleod*..... 338
$C_{12}H_{14}O_4$. $\beta$-Phenylbutane-$\alpha,\alpha$-dicarboxylic acid. + $H_2O$. *Reynolds*..... 315
$C_{12}H_{22}O_4$. Diethyl ester of $\beta$-ethylbutane-$\alpha,\alpha$-dicarboxylic acid (diethyl diethylmethylmalonate). *Reynolds*..... 321
$C_{12}H_{24}O_2$. Undecane-$\alpha$-carboxylic acid (lauric acid). *Dakin*..... 47

### 12 III.

$C_{12}H_9O_2N$. $\alpha$-Cyan-$\delta$-phenyl-$\alpha,\gamma$-butadiene-$\alpha$-carboxylic acid ($\alpha$-cyancinnamylidenacetic acid). *Macleod*..... 347
$C_{12}H_{14}OBr_2$. $\beta,\gamma$-Dibrom-$\alpha$-keto-$\beta$-methyl-$\alpha$-phenylpentane (propylidenethylphenyl ketone dibromide). *Reynolds*..... 317
$C_{12}H_{17}O_2N$. 2-Diethylamino-3-methylbenzoic acid. *Wheeler* and *Hoffman*..... 124, 507

### 12 IV.

$C_{12}H_{11}O_4N_2Cl$. Benzamide of 2-keto-5-chlormethyltetrahydrooxazole-1-carboxylic acid. *Johnson* and *Guest*..... 462
$C_{12}H_{11}O_4NBr_2$. Diacetate of 2,6(?)-dibrom-4(?)-acetamino-1,3-dihydroxybenzene. *Raiford* and *Heyl*..... 218
$C_{12}H_{16}O_2NI$. 5-Iod-2-diethylamino-3-methylbenzene-1-carboxylic acid. *Wheeler* and *Hoffman*..... 125, 507

## $C_{13}$-GROUP.

### 13 II.

$C_{13}H_{14}O_2$. Methyl ester of $\alpha$-phenyl-$\alpha,\gamma$-pentadiene-$\delta$-carboxylic acid (methyl $\delta$-methylcinnamylidenacetate). *Macleod*..... 340

$C_{13}H_{16}O$. $\gamma$-Keto-$\delta,\delta$-dimethyl-$\alpha$-phenyl-$\alpha$-pentene (benzalpinacolin). *Getman*..... 155
$C_{13}H_{20}O_2$. $\gamma$-Hydroxy-$\alpha$-ethoxy-$\gamma$-phenylpentane (ethylethoxyethylphenylcarbinol). *Reynolds*..... 322

## 13 III.

$C_{13}H_9O_3N_3$. 4 - Oximido - 5 - keto - 1 - phenyl - 3 - [2 - furyl] - 4,5 - dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 419
$C_{13}H_9O_4N_3$. 5 - Keto - 1 - [4 - nitrophenyl] - 3 - [2 - furyl] - 4,5 - dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 429
$C_{13}H_{10}O_2N_2$. (1) 3 - Keto - 1 - phenyl - 5 - [2 - furyl] - 2,3 - dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 429
(2) 5 - Keto - 1 - phenyl - 3 - [2 - furyl] - 4,5 - dihydro - 1,2 - diazole. HCl (p. 416). *Torrey* and *Zanetti*..... 416
$C_{13}H_{10}O_2N_2$. 4 - Phenylazo - 5 - keto - 3 - [2 - furyl] - 4,5 - dihydro - 1,2-diazole. *Torrey* and *Zanetti*..... 415
$C_{13}H_{14}O_2Br_2$. Methyl ester of ? - dibrom - $\alpha$ - phenyl - ? - pentene-$\delta$-carboxylic acid. *Macleod*..... 346
$C_{13}H_{14}O_2Br_4$. Methyl ester of $\alpha$-phenyl-$\alpha,\beta,\gamma,\delta$-tetrabrompentane-$\delta$-carboxylic acid. *Macleod*..... 346
$C_{13}H_{17}ON$. Amide of $\beta$-ethyl-$\delta$-phenyl-$\gamma$-butene-$\alpha$-carboxylic acid. *Macleod*..... 349
$C_{13}H_{19}O_2N$. 2 - Diethylamino - 3,5 - dimethylbenzene - 1 - carboxylic acid. *Wheeler* and *Hoffman*..... 122

## 13 IV.

$C_{13}H_9O_2N_2Br$. 5 - Keto - 1 - [4 - bromphenyl] - 3 - [2 - furyl] - 4,5 - dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 427
$C_{13}H_{10}O_5N_2S$. 5 - Keto - 3 - [2 - furyl] - 4,5 - dihydro - 1,2 - diazole - 1-[benzene-4-sulphonic acid]. $+H_2O$. *Torrey* and *Zanetti*.. 428

# $C_{14}$-CROUP.

## 14 II.

$C_{14}H_{28}O_2$. Tridecane-$\alpha$-carboxylic acid (myristic acid). *Dakin*. 47

## 14 III.

$C_{14}H_{10}O_2N_2$. 5-Keto - 4 - benzylidene - 3 - [2 - furyl] - 4,5 - dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 414
$C_{14}H_{11}O_3N_3$. (1) Phenylamide of 5-keto-3-[2-furyl]-4,5-dihydro-1,2-diazole-1-carboxylic acid (furylpyrazolonephenylurea). *Torrey* and *Zanetti*..... 414
(2) 4-Nitroso-3-keto-1-methyl-2-phenyl-3-[2-furyl]-2,3-dihydro-1,2-diazole. HCl (p. 427). *Torrey* and *Zanetti*..... 425
$C_{14}H_{12}O_2N_2$. 3 - Keto - 1 - methyl - 2 - phenyl - 5 - [2 - furyl] - 2,3 - dihydro-1,2-diazole. HCl (p. 423, 425). HBr (p. 424). HI (p. 422). Picrate (p. 424). *Torrey* and *Zanetti*..... 422, 425

$C_{14}H_{13}O_2N$. Ethyl ester of α-cyan-δ-phenyl-α,γ-butadiene-α-carboxylic acid (ethyl α-cyancinnamylidenacetate). *Macleod*.. 347
$C_{14}H_{17}O_2N$. Monamide of β-ethyl-δ-phenyl-γ-butene-α,α-dicarboxylic acid. K (p. 348). *Macleod*..... 349

### 14 IV.

$C_{14}H_{11}ON_3S$. 5 - Mercapto - 1,4 - diphenyl - 4,5 - dihydro - 1,2,4 - triazole - 3,5 - oxide (5 - thiol - 1,4 - diphenylurazole). *Nirdlinger* and *Acree*..... 219
$C_{14}H_{12}N_2IS$. α - [4 - Iod - 1 - methylphenyl] - β - phenylthiourea. *Wheeler* and *Scholes*..... 140

## $C_{15}$-GROUP.

### 15 II.

$C_{15}H_{12}N_2$. 3,5-Diphenyl-1,2-diazole. *Reynolds*..... 324

### 15 III.

$C_{15}H_{10}OBr_2$. (1) 2,6-Dibrom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley*..... 75
(2) Stereoisomer (?) of 2,6-dibrom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley*..... 75
$C_{15}H_{11}OBr$. (1) α - Keto - α - [4 - bromphenyl] - γ - phenyl - β - propene (benzal-*p*-bromacetophenone). *Kohler, Heritage* and *Burnley*..... 66
(2) 6-Brom-3-keto-1-phenyl-2,3-dihydroindene. *Kohler, Heritage* and *Burnley*..... 67
$C_{15}H_{12}O_2N_2$. 3 - Keto - 1 - [α-ketoethyl] - 2 - phenyl - 5 - [2-furyl] - 2,3-dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 417

## $C_{16}$-GROUP.

### 16 II.

$C_{16}H_{22}O_4$. Diethyl ester of β-phenylbutane-α,α-dicarboxylic acid. *Reynolds*..... 315
$C_{16}H_{32}O_2$. Pentadecane-α-carboxylic acid (palmitic acid). *Dakin*. 47

### 16 III.

$C_{16}H_{12}ON_2$. 1-Semicarbazone-3-phenylindene. *Kohler, Heritage* and *Burnley*..... 73
$C_{16}H_{15}O_5N$. Ethyl ester of furane-2-[γ-phenylamino-α,γ-diketopropane-β-carboxylic acid] (anilide of furoylmalonic ester). *Torrey* and *Zanetti*..... 411
$C_{16}H_{19}O_2N$. Ethyl ester of α-cyan-β-ethyl-δ-phenyl-γ-butene-α-carboxylic acid. *Macleod*..... 347

### 16 IV.

$C_{16}H_{17}O_2N_2S$. Ethyl ester of α,β-diphenylthiourea-α-[aminocarboxylic acid] (3-thio-1-carbethoxy-2,4-diphenylsemicarbazide) *Nirdlinger* and *Acree*..... 236

## $C_{17}$-GROUP.

### 17 II.

$C_{17}H_{16}O_2$. $\gamma$-Keto-$\alpha$-ethoxy-$\alpha,\gamma$-diphenyl-$\alpha$-propene ($\beta$ - ethoxy - benzalacetophenone). *Reynolds*. . . . . 323
$C_{17}H_{20}O_2$. $\alpha$ - Hydroxy - $\gamma$ - ethoxy - $\alpha,\alpha$ - diphenylpropane (ethoxyethyldiphenylcarbinol). *Reynolds*. . . . . 322

## $C_{18}$-GROUP.

### 18 II.

$C_{18}H_{18}O_4$. Monoethyl ester of $\beta,\beta$-diphenylethane-$\alpha,\alpha$-dicarboxylic acid. K. *Reynolds*. . . . . 320
$C_{18}H_{20}O$. $\alpha$ - Keto - $\beta$ - methyl - $\alpha,\gamma$ - diphenylpentane (ethyl - phenylisobutyrophenone). *Reynolds*. . . . . 318
$C_{18}H_{36}O_2$. Heptadecane-$\alpha$-carboxylic acid (stearic acid). *Dakin*. 47

### 18 III.

$C_{18}H_{14}O_2N_4$. 2,6-Di[phenylazo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*. . . . . 20
$C_{18}H_{21}ON$. $\alpha$-Oximido-$\beta$-methyl-$\alpha,\gamma$-diphenylpentane. *Reynolds*. 319

## $C_{19}$-GROUP.

### 19 I.

$C_{19}H_{20}$. $\gamma,\varepsilon$-Diphenyl-$\beta,\delta$-heptadiene. *Reynolds*. . . . . 328

### 19 II.

$C_{19}H_{22}O_2$. (1) $\alpha$-Keto-$\gamma$-ethoxy-$\alpha,\gamma$-diphenylpentane. *Reynolds*. 326
(2) $\gamma$-Hydroxy-$\alpha$-ethoxy-$\alpha,\gamma$-diphenyl-$\alpha$-pentane. *Reynolds*. 326

### 19 III.

$C_{19}H_{14}O_2N_4$. 4 - Phenylazo - 5 - keto - 1 - phenyl - 3 - [2 - furyl] - 4,5-dihydro-1,2-diazole. *Torrey* and *Zanetti*. . . . . 420
$C_{19}H_{24}O_2N_6$. $\alpha$-Semicarbazone-$\gamma$-semicarbazine - $\alpha,\gamma$ - diphenyl - pentane. *Reynolds*. . . . . 327

## $C_{20}$-GROUP.

### 20 III.

$C_{20}H_{14}O_2N_2$. 5 - Keto - 1 - phenyl - 4 - benzylidene - 3 - [2 - furyl] - 4,5-dihydro-1,2-diazole. *Torrey* and *Zanetti*. . . . . 419
$C_{20}H_{14}O_3N_2$. Phenylcarboxylate of 5 - hydroxy - 1 - phenyl - 3 - [2-furyl]-1,2-diazole. *Torrey* and *Zanetti*. . . . . 418
$C_{20}H_{18}O_2N_4$. (1) 2,6-Di-[2-methylphenyl-1-azo] - 1,3 - dihydroxybenzene. *Orndorff* and *Ray*. . . . . 34
(2) 4,6-Di-[2 - methylphenyl-1-azo] - 1,3 - dihydroxybenzene. *Orndorff* and *Ray*. . . . . 33
(3) 2,6 - Di - [4 - methylphenyl - 1 - azo] - 1,3 - dihydroxybenzene. *Orndorff* and *Ray*. . . . . 30
(4) 4,6 - Di - [4 - methylphenyl - 1 - azo] - 1,3 - dihydroxybenzene. *Orndorff* and *Ray*. . . . . 27

$C_{20}H_{19}O_2N$. Ethyl ester of α-cyan-β,δ-diphenyl-γ-butene-α-carboxylic acid. *Macleod*..... 349

## $C_{21}$-GROUP.

### 22 III.

$C_{22}H_{18}O_4N_4$. (1) Diacetate of 1,3-dihydroxy-2,6-di[phenylazo]benzene. *Orndorff* and *Ray*..... 20
(2) Diacetate of 4,6-di[phenylazo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 17

## $C_{23}$-OROUP.

### 23 II.

$C_{23}H_{22}O_2$. γ-Hydroxy-α-ethoxy-α,γ,γ-triphenyl-α-propene (ethoxytriphenylallyl alcohol). *Reynolds*..... 330

### 23 III.

$C_{23}H_{16}O_2N_4$. 4-[Naphthyl-2-azo]-5-keto-1-phenyl-3-[2-furyl]-4,5-dihydro-1,2-diazole. *Torrey* and *Zanetti*..... 421

## $C_{24}$-GROUP.

### 24 II.

$C_{24}H_{24}O_4$. 1,3-Diphenyl-R-butane-2,4-di[β-butene-γ-carboxylic acid]. *Macleod*..... 344

### 24 III.

$C_{24}H_{18}O_2N_6$. 2,4,6-Tri-[phenylazo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 10
$C_{24}H_{22}O_4N_4$. (1) Diacetate of 2,6-di-[2-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 35
(2) Diacetate of 4,6-di-[2-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 34
(3) Diacetate of 2,6-di-[4-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 31
(4) Diacetate of 4,6-di-[4-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 29

## $C_{26}$-GROUP.

### 26 II.

$C_{26}H_{28}O_4$. Dimethyl ester of 1,3-diphenyl-R-butane-2,4-di[β-butene-γ-carboxylic acid]. *Macleod*..... 345

### 26 III.

$C_{26}H_{18}O_2N_4$. 2,6-Di[naphthyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 38
$C_{26}H_{24}O_4Br_4$. Dimethyl ester of 1,3-diphenyl-R-butane-2,4-di-[β,γ-dibrompropane-γ-carboxylic acid]. *Macleod*..... 345

## $C_{27}$-GROUP.

### 27 II.

$C_{27}H_{16}O_2$. γ-Keto-α-phenyl-γ-[4-phenoxyphenyl]-α-propene. (benzal-*p*-phenoxyacetophenone). *Kohler, Heritage* and *Burnley* ..... 68

$C_{27}H_{22}O_2$. γ-Keto-α,α-diphenyl-γ-[4-phenoxyphenyl]propane (β,β-diphenyl-*p*-phenoxypropiophenone). *Kohler, Heritage* and *Burnley* ..... 68

### 27 III.

$C_{27}H_{20}O_2Br_2$. γ-Keto-α-brom-β,β-diphenyl-γ-{4-[4(?)-bromphenoxy]phenyl}propane. *Kohler, Heritage* and *Burnley* ..... 69

$C_{27}H_{21}O_2Br$. γ-Keto-α-brom-β,β-diphenyl-γ-[4-phenoxyphenyl]propane. *Kohler, Heritage* and *Burnley* ..... 69

$C_{27}H_{24}O_2N_6$. (1) 2,4,6-Tri-[2-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 31

(2) 2,4,6-Tri-[4-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 26

## $C_{28}$-GROUP.

### 28 III.

$C_{28}H_{22}O_4N_6$. Diacetate of 2,4,6-tri[phenylazo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 12

## $C_{30}$-GROUP.

### 30 III.

$C_{30}H_{22}O_4N_4$. Diacetate of 2,6-di[naphthyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 39

## $C_{31}$-GROUP.

### 31 III.

$C_{31}H_{28}O_4N_6$. (1) Diacetate of 2,4,6-tri[2-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 32

(2) Diacetate of 2,4,6-tri[4-methylphenyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray* ..... 27

## $C_{34}$-GROUP.

### 34 II.

$C_{34}H_{32}O_2$. Isomeric compounds from γ-keto-α-ethoxy-α,γ-diphenyl-α-propene and ethylmagnesium bromide. *Reynolds* ..... 327

## $C_{35}$-GROUP.

### 35 III.

$C_{35}H_{31}O_2N$. β-Cyan-α-ethoxy-α-[α,γ-diphenyl-β-propenoxy]-γ,ε-diphenyl-α,δ-pentadiene. *Macleod* ..... 351

## $C_{36}$-GROUP.

### 36 II.

$C_{36}H_{27}N_{11}$. 4-Di[phenylazophenyldiazo]aminoazobenzene. *Orndorff* and *Ray*..... 39

### 36 III.

$C_{36}H_{24}O_2N_6$. 2,4,6 - Tri[naphthyl- 1 - azo] - 1,3 - dihydroxybenzene. *Orndorff* and *Ray*..... 36

## $C_{40}$-GROUP.

### 40 III.

$C_{46}H_{28}O_4N_6$. Diacetate of 2,4,6-tri[naphthyl-1-azo]-1,3-dihydroxybenzene. *Orndorff* and *Ray*..... 37

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ERRATA.

P. 39, l. 25, formula should be $C_6H_2(OCOCH_3)_2(N_2C_{10}H_7)_2$.

P. 58, l. 3 (from the bottom), formula should be $C_6H_8O_4N_2$.

P. 121, l. 8, formula should be $C_{11}H_{15}O_2N$.

P. 122, l. 30 *et seq.*, 2-nitro-5-methylbenzoic acid and derivatives should be 2-nitro-3-methylbenzoic acid, etc. (see Wheeler and Hoffman, p. 507).

P. 123, l. 23, formula should be $C_8H_8O_3N_2$.

P. 123, l. 24, 15.38 should be 15.55.

P. 137, l. 8, the formula should be $C_7H_7O_2N_2I$.

P. 319, l. 21, the formula should be $C_{18}H_{21}ON$.

P. 352, l. 11 *et seq.*, $\omega$-ketotetrahydrooxazoles should be $\mu$-ketotetrahydrooxazoles.

P. 428, l. 30, formula should be $C_{13}H_9O_2N_2SO_3H.1H_2O$.